Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.

Persimmon

(*Diospyros virginiana*)

By H. S. BEETS, *senior engineer, Division of Forest Products*

Persimmon is a member of the ebony family of which there are some 160 species. Only two of these grow in the United States—the common persimmon (*Diospyros virginiana*) which occurs throughout the southeastern part of the United States, and the black persimmon (*D. texana*,) which occurs only in a limited area in western Texas and is of litle commercial importance. Persimmon trees are comparatively small, generally not over 50 feet high and 12 inches in diameter. The wood is exceptionally hard and strong, and, like dogwood, stays smooth under long-continued friction. It is this property that makes dogwood and persimmon the outstanding and practically the only woods used in the manufacture of shuttles for textile weaving. Another exacting use for which persimmon has proved highly satisfactory is the manufacture of golf-club heads. For a number of years before World War II, this use consumed the greater part of the persimmon cut,[1] probably over 90 percent.

The fruit of persimmon, which somewhat resembles a yellow plum, is famous for its astringent or puckering effect if tasted before it is thoroughly ripe. Among the common fruits the only one which exceeds the persimmon in food value is the date. While comparatively little use is made of wild persimmons except as food for hogs, orchards of cultivated varieties have been established in California and the carefully packed fruit is shipped throughout the country.

Nomenclature.—Persimmon is the generally accepted name for this species. Among the other names sometimes used are date plum, simmon, possumwood, and winter plum.

Distribution and growth.—Persimmon trees grow throughout the southeastern part of the United States except in the lower portion of Florida. (See map.) Its range extends northward to an irregular line stretching from the southern tip of Connecticut and New York to Nebraska. Westward its range extends into Kansas, Oklahoma, and Texas.. It grows best in the deep rich soils of the lowlands or river bottoms, such as are found in the Coastal Plain from Virginia to Texas and in the Mississippi Valley,[2] and also does fairly well in the light, sandy, well-drained soils that occur farther inland. It ascends the Appalachian Mountains sparingly to altitudes of 3,500 feet.

In the forest, persimmon occurs singly, and the trees are often widely scattered. They need at least a moderate amount of light in

---

[1] Comparatively small amount of dogwood was also used, and trials of compressed wood and of several South American woods were under way.

[2] The wood cut from trees grown in flooded areas is often lacking in hardness as compared to wood grown elsewhere.

Forest Service

U. S. DEPARTMENT OF AGRICULTURE

American Woods July 1945

660925—45

order to survive. Persimmon cannot endure shade as well as dogwood with which it is often found. The trees are generally about 30 to 60 feet high and not more than 12 inches in diameter. Occasionally, under highly favorable conditions, persimmon trees reach a height of 100 feet and a diameter of 2 feet. The larger trees, which are generally found in the Mississippi Delta, are often transported to the mill as sawlogs. The smaller material from the Appalachian and Cumberland Mountains is handled as cordwood.

Persimmon reproduces both from seeds and sprouts. The fruit in which the seeds are contained is from ¾ of an inch to 1½ inches in diameter when fully grown and ranges in color from yellow to bright orange.[3] The seeds are scattered by mammals and birds which eat the fruit when it ripens in the late fall. Some of the seeds reach the ground in places where growth conditions are favorable and sprout the following spring.

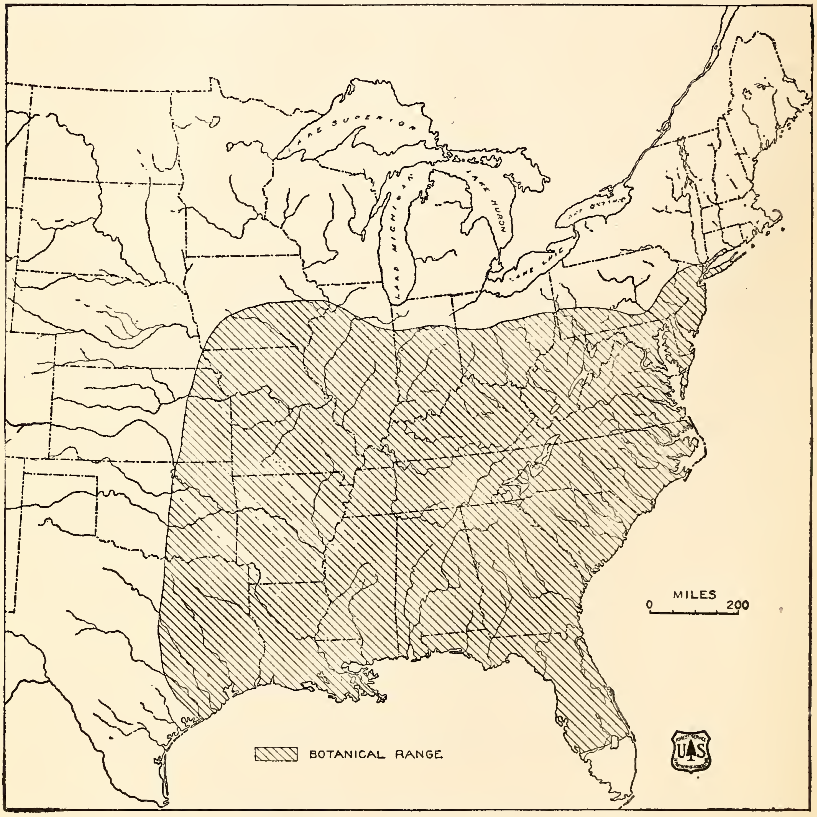

FIGURE 1.—Range of persimmon (*Diospyros virginiana*).

Supply.—The stand of commercially available persimmon timber was estimated roughly in 1923 at the equivalent of 600,000 cords.[4]

---

[3] In rare instances it is dark red.

[4] CUNO, J. B. UTILIZATION OF DOGWOOD AND PERSIMMON. U. S. Dept. Agr. Bul. 1436, 42 pp., illus. 1926.

This estimate applied only to accessible material that was in sufficient quantity in any one locality to make cutting operations feasible. It is probable that the estimate would have been at least doubled had it included all persimmon of commercial size without regard to accessibility or number of trees per acre in any one locality.

No recent estimate of the stand of persimmon is available. If it is assumed that the cutting of persimmon has gone forward at approximately the same rate as in 1923 and that there has been some replacement due to growth, a very rough estimate of the total stand would be 1,100,000 cords equivalent to approximately 330,000,000 board feet.[5]

Arkansas, Mississippi, Alabama, Georgia, and South Carolina probably contain over one-half of the supply of persimmon.

Production.—The reported amounts of persimmon lumber produced annually by lumber mills have been listed irregularly in the lumber production statistics of the Bureau of the Census since 1907. An unknown proportion of persimmon logs, however, are not taken to lumber mills but to small dimension-stock mills where the logs or bolts are cut directly into blocks (not into lumber) from which shuttles, golf-club heads, etc., are made.[6] The statistics of lumber production, therefore, represent but a part of the total volume of persimmon wood used commercially. The only year for which figures on the entire cut of persimmon are available is 1923. In that year 8,000 cords were converted into dimension stock.[7] Of this amount, 6,650 cords were used for shuttle blocks,[8] and 1,350 cords for golf-club head blocks and shoe last blocks.

A recent estimate gives the number of persimmon shuttle blocks produced in 1941 as 1,780,000.[9] To make these blocks the equivalent of about 4,450 cords [10] of bolts would be required. It is probable that comparatively few golf-club head blocks were produced from persimmon in 1941 because of war conditions. The total cut of persimmon in 1941 for all purposes is estimated at 5,000 cords, equivalent to approximately 1.500.000 board feet.

Properties.—The wide sapwood of persimmon is creamy white when freshly cut, darkening on exposure to the air to a grayish or yellowish brown. The small heartwood is blackish brown to jet black and generally irregular in outline. The sapwood is usually from 2 to 5 inches wide in trees of commercial size and the heartwood sometimes no larger than a lead pencil in trees 6 or 8 inches in diameter. Practically all of the persimmon used for commercial purposes is sapwood. The annual growth rings, made up of a band of springwood and a band of summerwood, can be distinguished but are not conspicuous. A rate of growth of about 20 rings to the radial inch is quite common.

---

[5] A cord of persimmon bolts contains 300 board feet.

[6] The manufacture of products (such as golf-club heads and shuttles from blocks) and blocks are nearly always separate industries.

[7] The 8,000 cords probably included at least part of the reported production of persimmon lumber in that year, listed as 268,000 board feet. In other years the reported production of persimmon lumber has varied from a minimum of 6.000 board feet in 1936 to a maximum of 2.285,000 board feet in 1909.

[8] The demand for shuttle blocks was greater in 1923 than for a number of years before and after that date.

[9] Based on information obtained from a number of the larger shuttle producers. Information from the same source also indicated a production of 5.286.000 dogwood shuttle blocks in 1941.

[10] A cord of persimmon bolts yields approximately 400 shuttle blocks of average size.

The wood is comparatively uniform in texture but is not the equal of dogwood in this respect. Like dogwood, it becomes very smooth under wear which is a necessary property for shuttle use. Persimmon is heavy,[11] hard, strong, stiff, and has high shock-resisting ability. It has a very large shrinkage and considerable care must be used in seasoning the blocks from which shuttles or golf-club heads are to be made so as to prevent checking. When properly dried, persimmon ranks high in ability to stay in place. The wood is difficult to work with tools and does not glue easily. It is not durable when used under conditions favorable to decay, as practically all of it is sapwood.[12]

Principal uses.—Persimmon is used principally for shuttles and golf-club heads. Its outstanding ability to stay smooth under friction combined with a high degree of hardness, strength, and toughness makes it one of the two standard shuttle woods.[13] Its hardness, uniform texture, and ability to stay in place, once it is properly seasoned, enable persimmon to meet satisfactorily the exacting requirements for golf-club heads. Comparatively small amounts of persimmon have been used for shoe lasts, principally for children's shoes, in which the design does not change frequently. Lasts for women's shoes change so often that less expensive woods, such as maple, are now used instead of persimmon, although the latter is harder and withstands rough usage better. Small amounts of persimmon are used for handles.

The fruit of the persimmon, unless thoroughly ripe, is generally very astringent because of its high tannin content. When thoroughly mature, however, the flavor is rich and sweet, and the consistency about like that of a thoroughly baked apple. The wild fruit, except for serving as stock feed, has at present only a limited use in making some kinds of bread or pone and in preparing certain home-made beverages and sweetmeats. In some cities and towns in the South, wild persimmons can be purchased in season in the public markets. The limited use of the wild fruit, in spite of its high food value, is doubtless due to the erroneous but widely held belief that it is not fit to eat until touched by frost. As a matter of fact, freezing is as detrimental to the quality of persimmons as to any other fruit. They are not edible before frost because they have not yet matured.

REFERENCES

GROWTH, SPECIFIC GRAVITY, AND SHRINKAGE OF TWELVE DELTA HARDWOODS. B. H. PAUL *and* R. D. MARTS. Jour. Forestry 32 (8) : 861–873, illus. 1934.

MANUAL OF THE TREES OF NORTH AMERICA. C. S. SARGENT. 826 pp., illus. Boston and New York. 1905.

THE NATIVE PERSIMMON. W. F. FLETCHER. U. S. Dept. Agr. Farmers' Bul. 685, 22 pp., illus. 1915.

THE SOUTHERN HARDWOOD—PERSIMMON. South. Lumberman, 162 : 27–28, illus. 1941.

UTILIZATION OF DOGWOOD AND PERSIMMON. J. B. CUNO. U. S. Dept. Agr. Bul. 1436, 42 pp., illus. 1926.

---

[11] The average weight of persimmon in an air-dry condition (12 percent moisture) is 52 pounds per cubic foot.

[12] The sapwood of all species lacks decay-resisting ability.

[13] Dogwood is considered the standard shuttle wood and is preferred to persimmon for this purpose. Some manufacturers of shuttles are of the opinion that persimmon wood grown at the higher elevations has greater density and more uniform texture and gives better and longer service than wood grown in the Mississippi Delta. The so-called upland or mountain persimmon, however, is more expensive to cut and transport to the mill and the waste in making shuttle blocks is greater than when the larger, straighter logs from the Delta are used.

U. S. GOVERNMENT PRINTING OFFICE: 1945